

fig. illustration of dot convention.

Dots are used to determine the polarity of the mutual voltage.

Dot convention is stated as follows

If a current enters the dotted terminal of one coil, the reference polarity of the mutual voltage in the second coil is positive at the dotted terminal of the second coil.

Alternatively

September '11				
Monday	5	12	19	26
Tuesday	6	13	20	27
Wednesday	7	14	21	28
Thursday	1	8	15	22
Friday	2	9	16	23
Saturday	3	10	17	24
Sunday	4	11	18	25

Notes

Appointment

If a current leaves the dotted terminal of one coil, the reference polarity of the mutual voltage in the second coil is negative at the dotted terminal of the second coil.

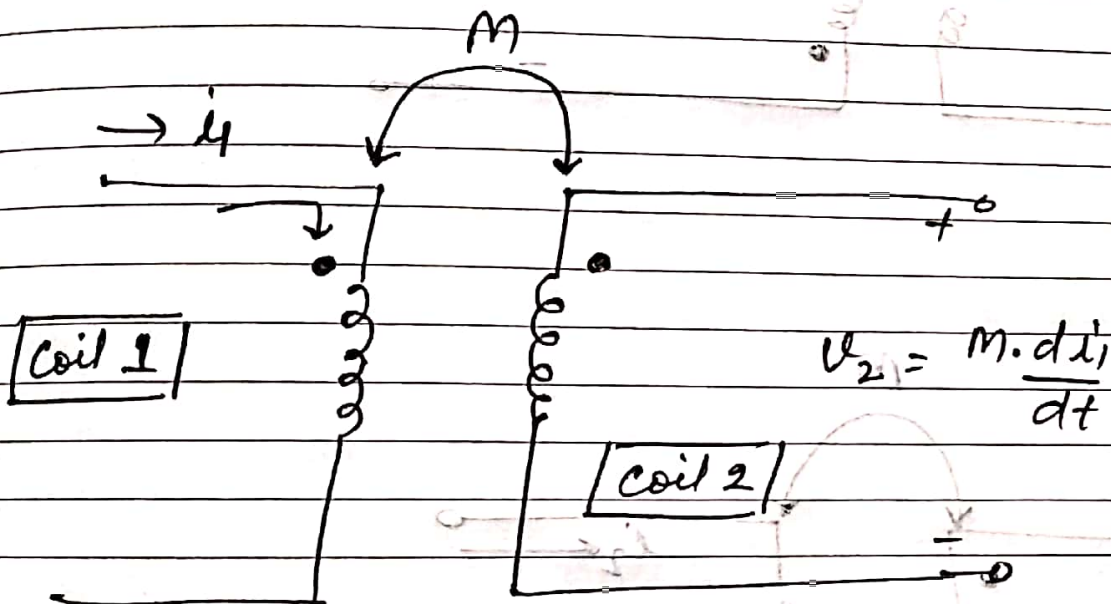


fig: the sign of the mutual voltage

v_2 is determined by the reference polarity for v_2 and direction of i_1 .

Sunday 25

\Rightarrow i_1 enters the dotted terminal of coil 1
 v_2 is positive at the dotted terminal of coil 2

mutual voltage is $+ M \frac{di_1}{dt}$

Notes

Appointment

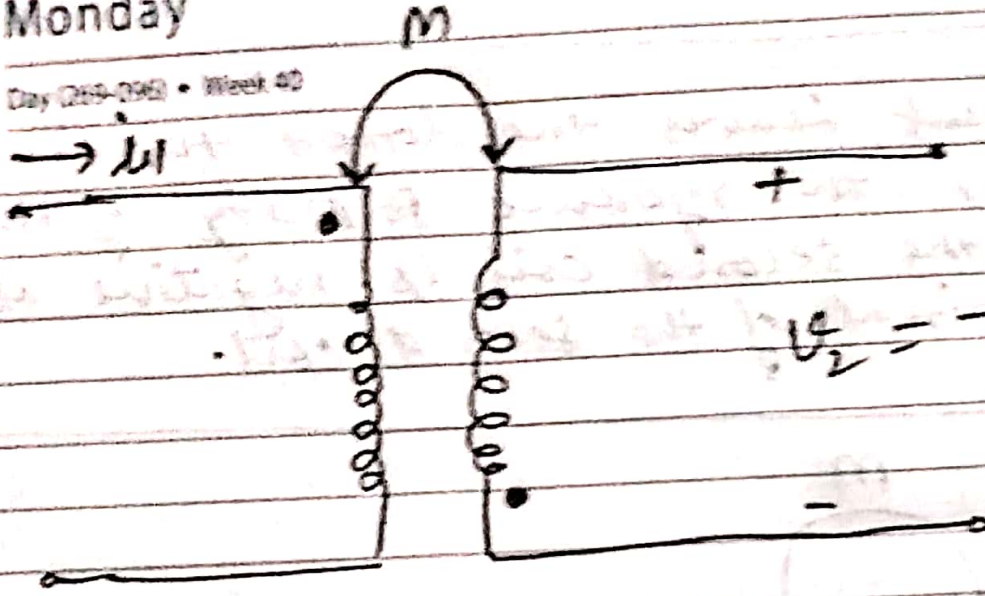
October'11

Monday	31	3	10	17	24
Tuesday		4	11	18	25
Wednesday		5	12	19	26
Thursday		6	13	20	27
Friday		7	14	21	28
Saturday	1	8	15	22	29
Sunday	2	9	16	23	30

Monday

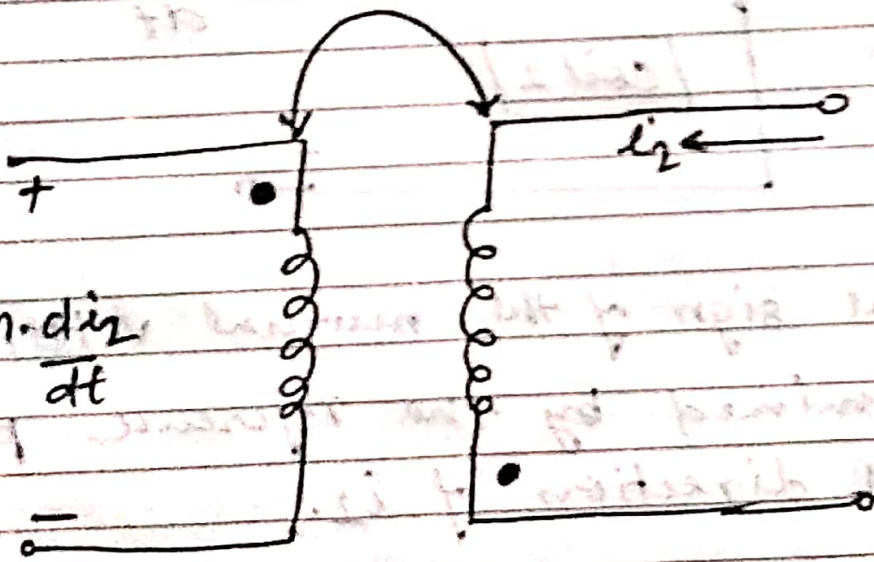
Day 0269-0269 • Week 00

$\rightarrow i_1$



$$V_2 = -M \frac{di_1}{dt}$$

$\frac{di_2}{dt} = M$



$$V_1 = -M \frac{di_2}{dt}$$